AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A wireless communication device, comprising:

an antenna configured for communication over a wireless network; and

a data processing system in communication with the antenna, the data processing system including a protocol stack for facilitating communication [with a network resource via] over the wireless network, the protocol stack comprising an intermediate protocol layer configured [for] to:

(i) [monitoring a transmission of electronic data] transmit electronic message datagrams from the antenna [for subsequent reception by the network resource] over the network, and maintain a running average of acknowledgment times of successfully transmitted ones of the datagrams; and [for]

(ii) [initiating] initiate retransmission of unsuccessfully transmitted ones of the datagrams [at a retransmission rate based on a] after a retransmission interval of magnitude which is initially the running average of the acknowledgment times [for successfully transmitted ones of the datagrams], and which increases from that magnitude after a predetermined number of unsuccessful retransmission attempts of the unsuccessfully transmitted one datagram.

2. The communication device according to claim [1]4, wherein the [intermediate protocol layer comprises a] message monitor is configured to wait for [receipt of] an acknowledgement signal received at the data link layer in response to a successful transmission of one of the datagrams from the data link layer, and to update the running average in accordance with a duration of each wait.

Claim 3 (cancelled)

Claim 4 (currently amended): The communication device according to claim [3]1, wherein the [exponentially increasing retransmission interval has a finite maximum limit] intermediate protocol layer comprises a message monitor implemented at a data link layer and which is

configured to increase the retransmission interval until a maximum upper limit is reached, and to maintain the retransmission interval at that maximum upper limit until the unsuccessfully transmitted one datagram is successfully transmitted.

Claim 5 (currently amended): The communication device according to claim 2, wherein each said electronic message comprises message data, the intermediate protocol layer further comprises a message processor [in communication with the message monitor] implemented at a transport layer, the message processor is configured to [encapsulate] format the message data [in a] into at least one transport layer data segment, and the message monitor is configured to [encapsulate the transport layer data segment in a link layer datagram] format the at least one transport layer data segments into at least one link layer datagram, [the link layer datagram comprising a message class indicator identifying the message data, and a datagram sequence number uniquely associated with the link layer datagram] each transport layer data segment and link layer datagram having a respective header, the transport layer header and the link layer header having a combined length less than a TCP/IP header.

Claim 6 (currently amended): The communication device according to claim 5, wherein the transport layer [data segment comprises a transport layer header including a source message identifier assigned by the message processor, a destination message identifier assigned by a wireless recipient of the message data] header includes a session number transport layer parameter identifying a data format of the message data, and a radio address transport layer parameter uniquely associated with [the] a mobile wireless communication device, and the data processing system is configured to relay the electronic data between the mobile wireless communication device and a process on a wired network in accordance with the session number and the radio address.

Claim 7 (currently amended): The communication device according to claim 6, wherein the [protocol stack includes a physical protocol layer in communication with the intermediate protocol layer, the physical protocol layer being configured to encapsulate each said datagram in a physical layer header, the physical layer header including a device address associated with a

wireless recipient of the transmitted datagram] the communications device comprises the mobile wireless communications device.

Claim 8 (currently amended): A method of wireless data communication [between a wireless communications device and a land-based network resource, the network resource being in communication with an access server over a land-based network] over a wireless network, the method comprising the steps of:

at a wireless communication device initiating transmission of electronic [messages] message datagrams [from the wireless communication device to the access server] over [a] the wireless network, and maintaining a running average of acknowledgment times of successfully transmitted ones of the datagrams; and

[at the wireless communication device monitoring successful transmission of the message over the wireless network; and

at the wireless communication device] initiating retransmission of unsuccessfully transmitted ones of the [messages at a retransmission rate based on a running average of acknowledgment times for successfully transmitted ones of the messages] message datagrams after a retransmission interval of magnitude which is initially the running average of the acknowledgment times, and which increases from that magnitude after a predetermined number of unsuccessful retransmission attempts of the unsuccessfully transmitted one datagram.

Claim 9 (cancelled)

Claim 10 (currently amended): The method according to claim [9]8, wherein the [exponentially increasing] retransmission interval [has a finite maximum limit] increasing step comprises the steps of increasing the retransmission interval until a maximum upper limit is reached, and maintaining the retransmission interval at that maximum upper limit until the unsuccessfully transmitted one datagram is successfully transmitted.

Claim 11 (currently amended): The method according to claim [8]10, wherein the [monitoring step] wireless communication device has a protocol stack facilitating the wireless data communication, the protocol stack including a data link layer for transmitting the datagrams

from the link layer, and the retransmission step comprises the steps of for each said transmitted message datagram waiting an acknowledgement time period for receipt of an acknowledge signal [generated by the access server] at the data link layer in response to a successful transmission of [the message to the access server] one of the datagrams, and updating the running average in accordance with [each acknowledgement time period] a duration of each wait.

Claim 12 (currently amended): An access server for facilitating communication of electronic data between a network resource interfacing with the access server over a [land-based] wired network and a mobile wireless communications device interfacing with the access server over a wireless network, the access server comprising:

a network interface for communicating with the network resource over the [land-based] wired network;

an antenna for communicating with the wireless communications device over the wireless network; and

a data processing system in communication with the network interface and the antenna, the data processing system including a protocol stack comprising:

(i) an intermediate protocol layer comprising a message processor layer implemented at a transport layer for formatting the electronic data into at least one transport layer data segment, and a message monitor layer implemented at a data link layer for formatting the at least one transport layer data segment into at least one link layer datagram, each transport layer data segment and link layer datagram having a respective header, the transport layer header and the link layer header having a combined length less than a TCP/IP header, the transport layer header including a session number transport layer parameter identifying a data format of the electronic data;

(ii) a first physical protocol layer in communication with the intermediate protocol layer for facilitating communication of the datagrams over the wireless network,

[an intermediate protocol layer in communication with the first physical protocol layer,]

(iii) a second physical protocol layer for facilitating communication [over the land-based network] of the datagrams over the wired network, and

(iv) an application protocol layer in communication with the intermediate protocol layer and the second physical protocol layer for mapping [message] the electronic data

between the wireless communications device and the network resource in accordance with the session number.

Claims 13 to 16 (cancelled)

Claim 17 (currently amended): A method of [wireless] electronic data communication between [at least one land-based] a network resource associated with a wired network and [at least one] a mobile wireless network communications device associated with a wireless network via an access server associated with the wired network, the access server having a communications protocol stack comprising an application protocol layer, a message processor layer implemented at a transport layer, and a message monitor layer implemented at a data link layer, the method comprising the steps of:

[providing at least one network resource and an access server in communication with the network resource over a land-based network for facilitating communication between at least one wireless communication device and the at least one network resource;

at the access server] receiving the electronic data from [over] the wireless network [a wireless-based message datagram from the at least one wireless communication device intended for transmission to the at least one network resource], the electronic data comprising message data encapsulated into at least one transport layer data segment, the at least one transport layer data segment being encapsulated into at least one link layer datagram, each transport layer data segment and link layer datagram having a respective header, the transport layer header and the link layer header having a combined length less than a TCP/IP header, the transport layer header including a session number transport layer parameter identifying a data format of the electronic data;

[at the access server initiating transmission over the wireless network of an acknowledgement datagram to the at least one wireless communications device in response to a successful reception of the received wireless-based message datagram] at the message monitor layer extracting the at least one transport layer data segment from the received at least one link layer datagram;

at the message processor layer extracting the message data from the received at least one transport layer data segment; and

[directing the successfully received wireless-based message datagram to the at least one network resource over the land-based network] at the application protocol layer mapping the extracted message data between the mobile wireless communications device and the network resource in accordance with the session number.

Claims 18 to 19 (cancelled)

Claim 20 (currently amended): [A data structure] An electronic signal for facilitating communication with a mobile wireless communications device over a wireless network, comprising:

a message;

[a] at least one transport layer data segment encapsulating the message, each transport layer data segment having a transport layer header; and

[a] at least one link layer datagram encapsulating the transport layer data segment, [the] each link layer datagram [comprising a datagram sequence number and a message class indicator] having a link layer header, the transport layer header and the link layer header having a combined length less than a TCP/IP header, the transport layer header including a session number parameter identifying a data format of the message.

Claim 21 (currently amended): The [data structure] electronic signal according to claim 20, wherein [the transport layer data segment comprises a transport layer header including a source message identifier assigned by the originator of the data segment, a destination message identifier assigned by the access server, and] the transport layer header includes a radio address parameter uniquely associated with the [originator of the data segment] mobile wireless communications device.

Claim 22 (new): The method according to claim 11, wherein each said electronic message comprises message data, and the message transmission step comprises the steps of formatting the message data into at least one transport layer data segment, and formatting the at least one transport layer data segments into at least one link layer datagram, each transport layer data

segment and link layer datagram having a respective header, the transport layer header and the link layer header having a combined length less than a TCP/IP header.

Claim 23 (new): The method according to claim 22, wherein the transport layer header includes a session number transport layer parameter identifying a data format of the message data, and a radio address transport layer parameter uniquely associated with a mobile wireless communication device, and the method further comprises relaying the electronic data between the mobile wireless communication device and a process on a wired network in accordance with the session number and the radio address.

Claim 24 (new): The access server according to claim 12, wherein the transport layer header includes a radio address transport layer parameter uniquely associated with the mobile wireless communications device, and the data processing system is configured to map the electronic data between the mobile wireless communications device and the process in accordance with the radio address.

Claim 25 (new): The access server according to claim 24, wherein the message monitor layer is configured to initiate transmission of the datagrams over the wireless network; and to maintain a running average of acknowledgment times of successfully transmitted ones of the datagrams.

Claim 26 (new): The access server according to claim 25, wherein the message monitor layer is configured to initiate retransmission of unsuccessfully transmitted ones of the datagrams after a retransmission interval of magnitude which is initially the running average of the acknowledgment times, and which increases from that magnitude after a predetermined number of unsuccessful retransmission attempts of the unsuccessfully transmitted one datagram.

Claim 27 (new): The access server according to claim 26, wherein the message monitor layer is configured to increase the retransmission interval until a maximum upper limit is reached, and to maintain the retransmission interval at that maximum upper limit until the unsuccessfully transmitted on datagram is successfully transmitted.

Claim 28 (new): The method according to claim 17, wherein the transport layer header includes a radio address transport layer parameter uniquely associated with the mobile wireless communications device, and the mapping step comprises mapping the message data between the mobile wireless communications device and the network resource in accordance with the radio address.

Claim 29 (new): The method according to claim 28, further comprising the steps of:

at the message monitor layer initiating transmission of the datagrams over the wireless network;

at the message monitor layer initiating transmission of the datagrams over the wireless network, and

initiating retransmission of unsuccessfully transmitted ones of the datagrams after a retransmission interval of magnitude which is initially the running average of the acknowledgment times, and which increases from that magnitude after a predetermined number of unsuccessful retransmission attempts of the unsuccessfully transmitted one datagram.

Claim 30 (new): The method according to claim 29, wherein the step of increasing the retransmission interval comprises increasing the retransmission interval until a maximum upper limit is reached, and maintaining the retransmission interval at that maximum upper limit until the unsuccessfully transmitted on datagram is successfully transmitted.